



Paper for the Government2.0 Task Force

Improving Access to Public Sector Information – A Framework

1 Introduction

The Government2.0 Task Force has been established to determine ways of improving the government's use of Web2.0 technologies for its interaction with constituents and also to determine mechanisms to increase access to Public Sector Information (PSI).

This document will address PSI access related issues and will look at the components that constitute a possible framework for PSI discovery, access and licencing based on the experience gained with spatial data access resulting from the 2001 Australian Government Spatial Data Access and Pricing Policy. The paper will identify the elements of a possible framework to support access to PSI and indicate where this can be created by building on existing structures, policies and capabilities in order to provide a low cost approach to improving access to PSI. Note that the document refers to both data and information in a similar context.

This paper does not specifically respond to the questions posed in the *Towards Government 2.0: an Issues Paper*, but does address many of the issues raised. Also, the paper does not intend to describe or justify the benefits of increasing access to PSI, making the assumption that the benefits of this concept are well understood and will be better addressed by others.

2 Background

The concept of increasing access to PSI is not new but in the past few decades the Australian Government has varied its approach to data access from "free and open" access to supporting "cost recovery" principles. The cost recovery approach has also been used to provide a funding stream to assist agencies with managing and maintaining data sets. With a renewed government push towards more free and open access to information, it is essential that a different funding model be established to support those agencies presently relying on cost recovery to fund data management and maintenance activities. Without adequate funding, data sets lose their accuracy, currency, and value very quickly making them of little use to either government or the broader community.

It is also important to recognise that government agencies themselves are major consumers of data and information. Improving public access to government held information will also allow government agencies to access data they may not presently be able to use. This benefits government through improving the evidence base on which policy is developed, assist with improving service delivery, helping to develop better tools to assess the

effectiveness of policy implementation while also improving internal business processes.

2.1 Spatial Data Access and Pricing Policy

In 2001, Cabinet acknowledged that government held spatial or geographic information that had considerable value to the broad community, including the general public, research, academic and private sectors. The Australian Government Spatial Data Access and Pricing Policy were established through a Cabinet decision in 2001. This decision resulted in the creation of a governance and administration framework, various committees and working groups and also drove the development of a number of relevant capabilities including a registry of spatial data sets available under the policy in order to facilitate access to spatial data.

The broad community and the commercial sector in particular consider this policy highly successful. Early figures reflect this success, with some 50,000 copies of data sets under the policy downloaded in its first year of operation (FY02/03). The level of use of data available under the Policy increased to almost 1.6 million accesses in FY05/06. This has clearly demonstrated the demand for government spatial data and this experience is likely to translate to most PSI.

The Spatial Data Access and Pricing Policy provides a successful example of increasing access to PSI. It is recommended that the frameworks and capabilities established by the Spatial Data Access and Pricing Policy be used to inform the development of a broader PSI policy, and where practical capabilities established under the Spatial Policy be used as the basis for any capability developed to support the broader PSI access agenda. This will both leverage the success of the Spatial Data Policy and also reduce costs of implementing the broader PSI policy.

3 Barriers to Access

There are many barriers that make it difficult to access PSI. To change the existing culture of the Public Service and to establish a suitable framework to facilitate access to PSI, it is important to understand these barriers.

The barriers can be generally categorised into two distinct groups:

- Political, legal and emotional resistance.
- Technical and resource related constraints.

3.1 Political, Legal and Emotional Barriers

- Privacy Act – privacy concerns may be either real or perceived. While there are obviously many real examples of where information cannot be released due to the Privacy Act, the concept of breaching the Act is often used as an excuse for not releasing information. In many cases privacy is not the real issue or, with minor effort, the information could

be filtered to remove any privacy related problems. One method of filtering to remove the privacy concern is to aggregate unit level records to create statistical information so an individual cannot be identified. It is very easy to throw the Privacy Act up as a mechanism to halt access to data and information and without actually examining the specific data it is very difficult to refute this 'claim'.

- National security – is a similar type of barrier to the privacy concern. While genuine examples certainly exist where security is an issue, 'reasons of security' can also be a difficult claim to refute and so provides an easy excuse for non release of information. Additionally, it is likely that much 'classified' data is over classified in an effort to ensure that material is not released inappropriately.
- "Releasing the information 'may' embarrass the Minister" – This is a frequent agency reason for not making information available. This can be a genuine concern since some information may reflect poorly on a department and therefore Minister, for example by documenting the failure of a Policy. However, restricting access to data on the basis that 'embarrassment' may occur is at odds with the concept of open and transparent government.
- Information will be misused leading to significant legal problems and costs to the taxpayer. This view is another commonly used barrier but does not have any real evidence to prove the argument. Studies by the Queensland Treasury in their Government Information Licencing Framework activities would indicate that legal action against any government in Australia as a result of misuse of government information is rare if not non-existent. The risk (if it actually exists) can also be significantly reduced by having adequate metadata which describes the provenance of the data or information and reducing liability is further strengthened through liability provisions in licences and other disclaimers.
- Lack of coordination (governance and administration) for the release of PSI. Each agency goes about making information accessible in their own way, establishing a huge range of access mechanisms and licencing regimes. While information may be available the lack of consistency is it self a barrier, not to mention the cost to government of duplication of effort and capability.
- Lack of clarity on who is the 'data custodian' and who can authorise a data sets release. This issue is also manifested through an inability to clearly identify the authoritative version of a data set since there are often multiple copies and versions of a single data set within an agency and across many agencies. Guidelines and processes exist in the spatial community to identify the custodian who is then clearly acknowledged as the authoritative source of this information
- IP and licencing clarity. There is a high level of confusion on IP and copyright issues across government and also, as a consequence, there are many hundreds of different licencing regimes in place. These impose significant barriers to the consumer and also add to the management overheads for an agency. When a consumer wishes to access multiple data sets, all with different licencing conditions, they

must 'fight' through multiple legal issues and seek an opinion on each area of possible concern. It is likely that the cost of seeking legal views on multiple licences will outweigh the value of the various data sets being sorted. This issue was clearly identified in the Cutler Review of Innovation as an inhibitor to innovation. It has been raised by the Online and Communications Council' who are attempting to address this issue through their National Government Information Sharing Strategy (NGISS) and the National Information Licencing Framework (NGILF) activities. A clear IP and information licencing policy combined with tools to assist agencies in determining appropriate IP and licencing mechanisms would provide greater clarity for most public servants, and significantly simplify access for the public, reducing their costs substantially.

- There are also other agency level perceptions around the release of data and information that result in barriers to the release of information. These include:
 - Releasing a data set will result in a community awareness that the data set is not as high quality as perhaps has been claimed. Users will quickly identify poor data and this concern and impact on the data manager's ego provides a barrier to access.
 - Another emotional issue is the perception by data managers that 'information is power', and the release of information will reduce the perceived level of power.
 - Releasing data may expose poor information management practises by an agency. The public may identify poor practises and a lack of compliance with accepted standards. Hiding the data behind the agency firewall enables poor management practises to remain unexposed. In many cases these poor practises may be resource related.
 - Loss of identity – this perception relates to people feeling that by opening up access to "their" data they will lose their identity or brand. Many data managers feel it is 'their' data.

3.2 Technical and Resource Barriers to Data Access

There are a further set of barriers to accessing PSI. These are either technical issues or often relate to funding problems. In many cases the technical issues are a response to low levels of funding to support the data management activities.

Some of these issues are described below.

- Many agencies have inadequate infrastructures for data management and their focus is predominantly on their priority business processes, not the management of the data that may flow through their business systems. Data structures are optimised for meeting the workflows associated with the business activities. These data structures may not be in a suitable form to meet external user needs. Therefore it is difficult and expensive to extract specific data and make it publicly available in a form suitable for the broad communities use.

- There is a lot of duplication across Australian Government agencies through the establishment of multiple mechanisms to make data available to external (an often internal) users. Hundreds of web sites have been established with many different approaches to data discovery, access and licencing. This creates a high level of complexity for the user who frequently give up their search. This duplication also significantly increases costs for the government.
- Duplication of data access mechanisms also highlights the variety of different data structures used (often for similar data) and the limited or non existent metadata available to describe the provenance of the data set. This results in the data only being suitable for use by the specific community of interest who are able to locate the data, understand the terminology used in association with the data and probably have some idea of quality and 'fitness for purpose' issues due to their involvement in the community of interest that collected the data. A secondary user community (users outside the specific community of interest for which the data was collected) are unable to locate information that may be of interest to them since they do not know where to look and do not understand the domain specific terminology or fitness for purpose of the data. Because of this lack of clarity each community may replicate the same or similar data sets to underpin their business needs.
- The lack of use of relevant standard data formats and other related standards is also a major barrier to accessing PSI. The previous century's 'railway gauge' issue continues in the digital age. The same basic data collected by different agencies is likely to be of a different standard, different accuracy and resolution and more than likely held in a totally different format. The time, cost and overall complexity of merging multiple data sets with these issues is considerable. This issue is further compounded by the general lack of data provenance information discussed above.
- Discovery and access mechanisms. There are possibly hundreds of channels, web sites and other mechanisms for locating data and information across the Australian Government. The Australian Government does not have the equivalent of the USA Government's DATA.GOV web site. Specific communities of interest may know, through their own contact networks, where to go for relevant information, but the broader community or secondary user has no idea of how to locate information. A secondary user is defined as somebody not in the community of interest but who may wish to access that information. For example, a health professional may wish to have access to suburb or local government boundaries to support a study – they are a secondary user of this spatial information. They know where to get the health data, but 'where is' the spatial information they need to be found?
- A further technical barrier to access, especially for Web2.0 based services such as web services (machine to machine interactions) comes from the security barriers imposed by Defence Signals Directorate. While the issue of security is a very real one for government, it also poses a significant barrier to Web2.0 capabilities.

In simple terms existing 'security rules' mean an agency will not be able to support a web service interaction between a machine inside its firewall and a machine outside the firewall. This is a major barrier to implementing Web2.0 based data access capabilities. However, there are various solutions to this issue.

3.3 Other Issues and Barriers

Government Departments and senior staff are measured on their ability to provide specific outcomes to meet their department's business objectives. It is highly unlikely that their objectives will include making information available to the public, even if there is a significant government policy on this. To be effective, the concept of making information available as the default must be included in senior managers' performance agreements and become simply another departmental outcome and perhaps one that is measured.

A final area of concern is not so much a barrier, but a lack of process and procedure. This relates to the funding many Australian Government agencies provide to external organisations and where data may result from these activities. In many cases the data generated is rarely returned to the Australian Government. This is a potential source of large amounts of data and information, much of which would benefit the community if available through PSI mechanism. This information is also likely to be of considerable value to the Australian Government.

This situation often occurs as a result of the funding agreement not stipulating some minimum data management practices, such as completing standards based metadata records for each data set, specifying standard data structures and quality levels for the data and also not stipulating that the funding is conditional on the data being made available back to the Commonwealth under an appropriate licence that also makes it possible to provide the information to the broader community. This is an area with a high 'quick win' potential for the Task Force.

3.4 Reducing Barriers to Access

Many of these barriers can be removed through clear governance and administration structures and processes and well defined policies and guidelines. Some of the barriers to access are entrenched in the culture of organisations and cultural change requires multiple approaches, driven by champions within organisations and also back through high level government directives and policies. A lack of understanding of government processes and legislation particularly the Privacy Act and Intellectual Property areas and the relevance and value of metadata are also barriers. These issues can be addressed through appropriate training and suitable governance and administration structures.

There are a range of often interdependent activities required to be undertaken to meet the objectives of increasing access to PSI. Similarly a range of specific tools and components are also required, some of which are described below.

4 PSI Access Infrastructure

To provide a structured and coordinated approach to increasing access to PSI, a number of components are required and these can be described as forming a PSI access infrastructure. Such an infrastructure is required to ensure that the objectives of increasing access to PSI will be met in a cost effective and efficient manner.

The components of an infrastructure include:

- Policy
- Custodianship
- Governance and Administration
- Accessible PSI Inventory
- Discovery, Access and Licencing Mechanisms
- Funding Models

4.1 Policy

It is essential that a whole of government Policy on the provision of PSI be developed. The Policy should operate on an “opt-out” philosophy, with the basic premise being that all PSI be made available. Exceptions to this approach based on a clear and compelling case should be required to demonstrate the information’s privacy, security or some other level of confidentiality status allowing the data to be excluded from public access. A policy should have clear guidelines covering this. Enacting such a policy will require a major change to the philosophy and culture of most government agencies.

It is essential that a PSI Policy describes clearly what is ‘in’ and what is ‘out’ of scope in terms of access to PSI, as well as describing mechanisms and perhaps provide tools to assist in identifying information as suitable for public access. A clear Policy will be an important tool in the process of breaking down the ‘silo’ mentality and political and emotional barriers that perpetuate the continuing lack of access to PSI that is common in many agencies. An arbitrator to oversee and assist this process, and to mediate disagreements, should also form part of the policy infrastructure.

As a starting point, the existing Spatial Data Access and Pricing Policy could provide some concepts in relation to a broader PSI Policy and could form a template for the development of a PSI Access Policy. The Spatial Policy describes the governance and administration mechanisms required and these are likely to be of a similar nature to those required to support the broader PSI access agenda.

Additional material that could inform the development of an open access to PSI policy can be found in the recent Victorian Government Inquiry into Improving Access to Victorian Public Sector Information and Data. Other jurisdictions may have PSI or at least spatial information policies that may also provide a view of different concepts in this space.

4.1.1 Custodianship

A key issue in making PSI accessible is the identification of the appropriate custodian for a data set. A custodian is responsible for the management and maintenance of a specific data set, and generally this is the agency that creates or makes the greatest use of the information.

A PSI Policy should define custodianship guidelines which form an important element of a PSI Access infrastructure. Ideally, the policy would identify custodians for significant categories of information but this may not be practical given the effort and time to identify the appropriate agency. At the very least guidelines to assist in identifying custodians should be included in the Policy. The ANZLIC Spatial Data Custodian Guidelines could form a template for this work.

The role of custodian is important in relation to determining the 'authoritative version' of a data set, since similar data sets can frequently exist in many agencies and often these are modified copies of the authoritative set or are not current. This creates confusion and increases the potential of a user not using the most up to date and authoritative version leading to the potential for poorly informed decision being made.

ANZLIC – the Spatial Council has developed a set of custodian guidelines and principles that while focussing on spatial data, could be easily adapted to meet the broader PSI custodian principle needs.

4.2 Governance and Administration

Effective governance and administration is achieved through the support of a 'champion'. A champion also needs to be genuine, not simply another title to an existing activity. The role of a champion is to support and drive all aspects of improving PSI access including education, promotion, technical and legal support. A champion will also guide and oversee the implementation of specific physical components that will also be required in a PSI Access Infrastructure. Within the Australian Government's spatial sector, this function is provided by the Office of Spatial Data Management who administers the Spatial Data Access and Pricing Policy, provides support for the policy related committees and working groups, provides training and education events and physically implements various discovery and access mechanisms and tools.

4.3 *Inventory of Potential PSI*

Minister Tanner, in his announcement of the Government2.0 Task Force and in reference to PSI, suggested that an inventory be established as a mechanism to identify government information that could/would be made publicly available. The development of such an inventory would have two benefits. Firstly, it would document the information that would be available for public consumption based on the guidelines from the policy. Secondly, it would assist in establishing the necessary metadata describing the provenance of the information that would facilitate its discovery and also help reduce the risk of misuse. These benefits will be increased if a structured approach is taken with the development of such an inventory.

4.3.1 *Developing an Inventory*

The key to the development of an inventory relates to the use of appropriate standards and it is essential that the same approach is used by each agency when describing its information. A standards based metadata approach is required for this to be effective and to facilitate ease of discovery. Various standards do exist and these are being applied in some areas of the Australian Government.

The technical and non technical issues around developing an inventory are not trivial. Such an exercise will raise most if not all of the barrier issues discussed in this document. To be successful, it is essential that a clear directive covering what needs to be included and what can reasonably be excluded is defined in a PSI Policy. Additionally, any tools or guidelines such as check lists which would assist the process of identifying releasable information should be developed and made widely available. Similar tools have been developed for determining what data licencing mechanisms to apply as part of the work being undertaken in the Creative Commons Licencing framework.

4.4 *Discovery, Access and Licencing*

Once information has been identified as suitable to be made available to the community as PSI, the next step consists of establishing mechanisms to support this. These mechanisms cover the discovery, access and licencing of PSI.

4.4.1 *Discovery*

Making information discoverable is not simply a matter of placing the information on a web site. A number of mechanisms and structures need to be established to ensure that the information can be located by all possible users to maximise the benefits to the community.

There are three main methods of locating information of interest and each one is a viable mechanism that with appropriate support can be used by Government to maximise re-use of information. These mechanisms are:

- Word of Mouth
- Unstructured search mechanisms
- Structured Search mechanism

Word of Mouth - occurs usually through a 'community of interest' where people are aware of data sets or at least know somebody in the sector to call to ask about data sets of direct interest. This mechanism does not work when people outside the community of interest wish to locate a data set. They don't have any relevant contacts. This is the situation with most public discovery issues and so 'word of mouth' is not a viable option for the broad community.

Unstructured Searches - are provided through a range of commercial and agency search engines such as Google and Yahoo etc. These types of searches can be characterised by having no or little structure, using predominantly free text searches for key words or data set titles.

These types of searches often return tens of thousands (sometime millions) of 'hits' and while advanced searches are possible, these are best suited to people that have some understanding of the information they are seeking. This is similar to the 'word of mouth' approach in that these searches may be acceptable to users who understand the information they are seeking. The secondary user is often frustrated with these types of searches. Additionally, search engines are generally unable to provide details of data within a database. The engines can return details of metadata describing a database if this actually exists, but are unable to provide any information at the sub database level. Finally, many commercial search engines can have the response priorities over ridden through paid priority setting, leading users to a 'solution' based on a commercial business model, rather than greatest applicability to the users needs.

Structures Search Mechanisms – this approach uses a structured and standards based approach to information discovery. This approach is based on using metadata as a mechanism to provide a level of consistency in how information is described and therefore how it can be searched. Issues such as those complexities resulting from the semantics used by specific communities of interest can be reduced which helps users outside the community locate relevant information. There is a considerable research effort into the semantic issues and the concept of Web3.0 will be developed with semantics forming a major component. Over time, the issue of community of interest semantics will be reduced.

Within the Australian Government two main metadata standards are used to support structured discovery capabilities. The first is the international Dublin Core metadata standard and this is used within the Australian Government Locator Service (AGLS). The second standard uses the internationally

accepted ISO19115 spatial metadata standard to describe data with a spatial attribute. Within Australia (and New Zealand), ANZLIC has developed an Australian profile for the ISO standard which contains only 15 mandatory elements from the possible 400 elements of the full ISO standard.

It is important to note, that while many people would suggest that the requirement for metadata will reduce with improvements in search engines and also in the applications of semantic tools, it is likely that metadata will be come more essential as technology advances. Computers are becoming more capable and at some stage will be able to initiate direct machine to machine interactions, perhaps based on a user request such as: “find me all data for skin cancer health issues for men aged over 50 in Sydney from 2001 to 2009”. In this future world, structured metadata will be a key component of our internet based interactions.

It is important that existing and future information is described in machine readable forms.

4.4.2 Access to PSI

Once relevant information has been identified there is a requirement to access it. Access can be provided in many ways, but fitting into the Government 2.0 philosophy and its connection to Web 2.0 technologies, the ideal method is direct access to the identified information via web services. Other mechanisms can also be used including the present Web 1.0 approach which includes various download mechanisms through agency web sites and finally, more manual processes may be required where data is only available on physical media, such as DVD's.

As mentioned previously the Australian Government has numerous web sites, providing a range of information through predominantly Web 1.0 mechanisms. One approach to both improving access and also providing a cost effective approach to PSI access across government is via the concept of a “cloud computing” environment. A government developed and operated ‘cloud’ would provide a platform outside existing agency business systems (reducing security and other concerns). A cloud capability could provide a standards based platform structured to facilitate discovery, access and licencing using a consistent approach. Such an environment could initially be established on a small scale and extended as both user demand and quantities of information increased. Cloud computing should be considered as a concept rather than a specific physical capability. It is simply a mechanism to separate the operation of the infrastructure from the content and it does not need to be of the size now available through major commercial providers such as Google.

A range of government based communities are looking at the concept of cloud computing and it is one possible approach to support some of the ‘centralisation’ concepts and cost saving measures proposed in the Gershon Review. The research community via the National Collaborative Research Infrastructure Strategy (NCRIS) and others are looking closely at this

technological approach. The technical capability to establish a 'cloud' is available. The will and appropriate resources are what is lacking in a government context.

4.4.3 Licencing

Most PSI will need to have a level of protection in relation to copyright. It is important that the mechanism used to licence the use of PSI not form a barrier. The issues of Australian Government copyright and IP are presently being addressed through a range of mechanisms and while this area is important, these existing efforts will most likely provide a solution for the licencing issues. The Creative Commons Licence framework is the mechanism that has most carriage and moving in this direction will enable full electronic discovery, access and licencing when tied in with the other capabilities described above.

The National Government Information Sharing Strategy (NGISS) and the National Government Licence Framework (NGILF) initiatives being driven in the Australian Government context by AGIMO should provide this capability and various organisations such as the Australian Bureau of Statistics are also developing software that can be used to provide a full discovery, access and licencing workflow via the Internet environment. Creative Commons would support the full machine to machine scenario described above.

4.4.4 Review of Spatial Discovery and Access Programs

As back ground to the issues and structures required to support discovery, access and licencing, the following section provides some details of the activities within the spatial community that are relevant to this process. Some of these existing activities could be enhanced to support the broader PSI agenda. Relevant activities within the spatial community are described below.

4.4.4.1 ANZLIC Spatial Data Discovery and Access Program

The Australia and New Zealand Land Information Council (ANZLIC) has operated the Australian Spatial Data Directory (ASDD) for over a decade and this directory describes in excess of 30,000 spatial data sets and operates in a distributed manner with ASDD nodes in 24 organisations around Australia.

In the past 12 months a major effort has commenced to improve spatial data discovery and access. This activity covers three areas:

Tool Kit The development of an education and training capability – this consists of specific training material aimed at all levels of stakeholders from senior managers down to technical staff and provides details on the value and benefits of using metadata to describe data sets. It provides a roadmap of how to describe data in a standards based manner. While this has a spatial focus, the training material could be easily extended to cover the benefits and needs for metadata describing the broader information activities of government.

National Australian Archives and the Australian Bureau of Statistics also have significant metadata program that could be harnessed and integrated to provide support of PSI documentation.

Metadata Capture Tools

A simple to use, wizard based single user desktop tool has been developed by OSDM to enable non technical specialists to quickly create ANZLIC compliant metadata records for their data sets. The tool has been developed to enable additional profiles within the ISO19115 framework such as those being used by Defence and the Marine Communities to be easily added. Additionally, the tool has been built in a way that it can support the Dublin Core based AGLS metadata structures. While some development effort is required from this, the tools framework was created to meet this need. With all ISO profiles and AGLS capability potentially available within a single desktop tool, non specialists with almost no training can create metadata records for PSI in a structured and consistent manner.

ASDD Enhancement

The current ASDD is based on software developed over a decade ago. In the past 12 months OSDM has been undertaking a project to move the ASDD to a more advanced and open source software application called GeoNetwork. GeoNetwork operates in a distributed mode and supports both the ISO19115 and the Dublin Core frameworks. Development efforts have focussed on improving the user interface and user experience which in its initial form is focussed on the more technical user. GeoNetwork is capable of supporting more simplistic, and non specialist interfaces, similar to those developed for the ANZMET Lite Tool described above.

The adoption of GeoNetwork to support the ASDD functions will improve the discoverability of spatial data. Additionally, GeoNetwork can enable the user to directly download this data if the custodian has made it available in the appropriate form through open standards based web services. This can provide a one stop shop and also enable the user to extract and download only the component of the data that they require, rather than the complete data set.

Work is underway on GeoNetwork to also manage the discovery of and access to web service based applications, potentially enabling a user to process data and information through an application without actually holding the data or the application on their own systems. This is true Web2.0 functionality and

something that should be aimed for within the Government 2.0 activities.

4.4.4.2 ANZsi Proposal

ANZLIC has proposed a concept of establishing a market place for spatial information and also spatial services. It has suggested that the model being used by Amazon is the direction of how the spatial market place may operate. The market place would support both commercial and government data and services, some of which would have a cost, and others would be available free of charge. ANZsi needs to be easy to use, and enable 'providers of data and services to 'publish' their data quickly and easily. Consumers also need to be able to find the data and services of interest and consume this easily. At this stage there is no funding identified to establish ANZsi and efforts are focussing on stakeholder engagement and developing initial high level requirements.

If ANZsi is established, it will be important for any government PSI infrastructure to be able to interact with it via the appropriate interoperability standards.

4.4.4.3 NCRIS

The National Collaborative Research Infrastructure Strategy (NCRIS) program has a range of initiatives underway to increase access to scientific data for the Australian research community. A number of well funded projects are underway in support of this objective and any capability developed within the Australian Government should be capable of interacting with the NCRIS infrastructures.

4.4.4.4 Jurisdictional Examples of Data Access

A number of jurisdictions in Australia have already or are in the process of developing capabilities to improve internal and external (public) access to government spatial information and in some cases specific services. These jurisdictions have taken a range of approaches to establishing these capabilities, driven by different business needs and also as a consequence of different portfolio structures having different outcome requirements.

One commonality is the use of appropriate interoperability standards to improve efficiency, increase capability and reduce present and future costs. The following are some specific examples:

- Western Australia's Shared Land Information Platform (SLIP).
- Victorian Government's Spatial Data Mart
- New South Wales Government Spatial Information Exchange (SIX).

4.5 Data Management Funding Model

As identified previously, many agencies recoup funds from the sale of data and information. If there is a significant paradigm shift and information is made 'freely' available, it is essential that the funding model for supporting the on-going maintenance of data bases and information assets be reviewed and changed as appropriate. Without such a change, many valuable data bases will be reduced in quality and currency and all previous investment wasted.

5 Conclusion

The significance of making PSI information available to the public are not well understood and the flow on benefits resulting from such access are not widely recognised within government agencies.

A successful PSI Policy must provide this high level driver, to provide the benefits to all communities of interest within the government and in the broader community through establishing a clear mandate for open access to PSI. It is also clear that there are many components required in establishing an infrastructure or framework to provide efficient and effective access to PSI. Without a coordinated approach, increasing access to PSI could have significant cost implications.

The information in this document describes a number of issues and barriers that must be addressed to improve access to PSI and it also describes some existing capabilities established by the spatial community that support discovery, access and licencing methodologies. Many of the issues and barriers to access that are likely to be identified by the Government 2.0 Task Force have already been recognised by the Australian Government's spatial community and there are mechanisms and processes in place to resolve many of these.

It is suggested that efforts to establish an infrastructure or framework to support discovery, access and licencing of PSI leverage the significant amount of work undertaken within the government's spatial information community. By establishing such framework that provided a coordinate approach to improving access to PSI, the Australian Government would benefit the social, economic and environmental well being of the country.